Better Crops

The Pocket Book of Agriculture.

August 1925 10 Cents

This Issue: Laziness—Controlling Farm Production—
County Agent's Business Partner—Weeds Everlasting

Same Acreage ..... but

$10.76
Extra Per Acre

The Experiment Farm in Cass County, Michigan, in a rotation of Soy bean, rye, and wheat, applied lime, phosphoric acid, nitrogen, and potash. The value of the three crops was $22.20 per acre.

An adjoining plot with same rotation was fertilized exactly as above—*but without potash.* The value of this plot's yields dropped to $11.44 per acre. On each plot, the soil was sandy.

Thus, the extra income from potash was $10.76 per acre. Potash Pays! For mineral soil, 200 to 400 lbs per acre of a mixture with 2 to 6% potash is recommended *If your wheat tends to lodge, or grain is small and shrivelled—use the higher per cent of potash.* For muck soil, about 300 lbs. of 0–12–12, or 150 lbs. muriate of potash alone is recommended.

more bushels of WINTER WHEAT per acre

MANY winter wheat growers did it last year—many will do it next year—you can do it too.

Instead of increasing your winter wheat acreage, get more bushels of grain from each of your acres—grain that is plump and grades high.

Prepare your seed bed a little better than last year; select your seed carefully—and see that your fertilizer is high grade and well-balanced—with plenty of potash in your mixture.

A shortage of hay has been forecasted. Avoid a short clover hay crop next year by putting in clover with your winter wheat—and use plenty of potash in your mixture to improve the stand of your clover—as well as for increased yields of quality wheat. Potash Pays!

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Better Crops

The Pocket Book of Agriculture

VOLUME IV NUMBER SIX

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"Yield not to temptation"

Better Crops

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VOL. IV NEW YORK, AUGUST, 1925 No. 6

¶A timely essay on a popular human failing is this story on

LAZINESS

By Jeff McDermid

MY FRIEND, Fred Van Amburgh, philosopher, writer, thinker and doer, discussed with me recently the art of being lazy. Fred told me about the time when he saw a dog so lazy that he leaned his head against the wall while he barked.

And while in this position he attracted the attention of a lazy man who lay down to laugh at the dog!

Fred did not add that, although he had a kodak with him and could easily have snapped this laughable performance, he missed getting a picture of it because he was too lazy to pull the bellows out and adjust the lens. I suspect that this is true, but I am too lazy to ask him about it!

WHEN I was a boy and my dad would come home to find the lawn only partly mowed he would call to me, "Move on, driver!"

Now, unless you were "in the know" you could not understand that this was his half-serious, half-joking way of calling me the laziest boy in town. For one of his favorite stories was that of the town's laziest man who, while still alive, was being driven to the cemetery by a dozen disgusted fellow townsmen who had often threatened to bury him unless he went to work, and were now earnestly bent on carrying out their threat.

"Hold on there!" said a farmer, as the funeral cavalcade went by his gate, "Who ye buryin'?"

"Hank Bowers, laziest man in town."

"Didn't know he was dead!" exlaimed the farmer.

"Wal, he ain't. But we're buryin' him anyway, to get rid of him. He ain't no use to anybody, he's too lazy to even scary up food for himself, and he's half starved. He'd soon die anyway!" came back from the driver of the hearse.

"Shucks, I got lots of corn!" said the farmer. "Don't bury a man alive. I'll give him a bushel of corn!"

Suddenly, so dad's story went, the lid of the coffin was pushed up and Hank Bowers sat bolt upright, blinking and rubbing his eyes until they got accustomed to the daylight. He had undoubtedly heard through the padded walls of his coffin, the farmer's kind offer.

"Is that corn *shelled?*" he asked.

"Why no, of course not!" exclaimed the surprised farmer.

"Move on, driver!" said Hank, sliding back into the coffin. And the cavalcade moved on to the buryin' ground.

LOTS of us laugh at laziness. It is a lovable trait, for those who are lazy are usually good natured.

But laziness is a thief—a hold-up that always does an "inside job" to rob you of precious opportunities. Usually laziness visits you in the welcome disguise of a "much needed rest." You have been working rather hard, and feel that you should relieve your body and mind of all exertion for a while.

And thus disguised, laziness enters your soul and steals your future. For, nine times out of ten what you needed was a *change* of activity, not a rest. It is easier to rust out than wear out. And time is too precious to waste.

Man is naturally a lazy animal. You could count on your fingers and toes the men in your state who would work whether they had to or not. The rest are lazy by heredity, environment, desire and natural aptitude—they only work to keep from starving to death.

IN THOSE regions of the world where Nature bountifully supplies food without asking any labor as payment, no one works. The native sits under a banana tree, breathes a short prayer, shakes the tree by the simple process of leaning back violently once or twice against its trunk, and—his breakfast falls in his lap!

No Fifth Avenue club boasts better service.

In the tropics few are ambitious, and as no great accomplishment is achieved without effort, we find that no invention, no music, no art, no book, no poem, no new thing of any consequence ever came from the tropics.

The men of the north are the conquerors of the world. The great cities are cold cities—the progressive countries are those where winter's icy blasts stimulate ambition, and demand that the lazy one work or freeze. Man is only as active as he is forced to be.

What progress has been made in tropical zones has been made by northerners before they were bitten by the lazy bug.

Florida is even now suffering from a boom thrust upon her by money and men from the north—a boom that will last as long as men from the north maintain their vigor and as long as New York money flows in, but which will collapse like a punctured toy balloon full of sweetened wind as soon as the hookworm of laziness bites the newcomers, outside money ceases to pour in, and Florida has to support them on her own.

THE paths to progress are thronged except at the far end.

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Weeds Everlasting

By M. A. Crosby

¶Are weeds immortal? Read about this test and learn which are the longest-lived.

WHY do countless millions of weeds persist in annually making their appearance in our cultivated fields where none was allowed to go to seed the year previous, or for several years previous?

This is a question that caused many a farmer to scratch his head and ponder on the whys and wherefores of nature. No matter how diligent and thorough he may be the never-ending horde of weeds continues to spring up and pester him.

Those of us who were farm raised will recall spirited discussions among our farmer neighbors in which some would most emphatically assert that "the soil produces weeds spontaneously," and that under certain conditions or practices various crops "turn to weeds." As proof of these theories they would point to the fact that fireweeds always come up where a log-pile has been burned off on new ground, or claim knowledge of where "wheat had turned to cheat" or "red clover turned to sheep sorrel."

With the growth and advancement of agricultural science these "grandfather" notions have been dying out,—but there still remains some who religiously, and even proudly, cling to these old-time absurdities, just as they stubbornly adhere to the same farming practices and methods of their fathers and grandfathers before them. The majority of farmers, however, have long since come to realize that the seeds of many of our common weeds will often lie in the ground for years and then grow when brought under conditions favorable to germination.

But just how long will the seed of various weeds retain their vitality when lying in the soil? Is it possible, by preventing them from maturing seed for several years, to eventually eliminate weeds from our fields?

IN AN attempt to throw some light on this subject the late Dr. W. J. Beal, then Professor of Botany at the Michigan Agricultural College, planned and started an experiment to determine, if possible, just how long the seed of various kinds of weeds will remain in the ground and still retain vitality enough to germinate and produce plants. This experiment was started in 1879, and although it has now been running over 40 years it still has a long road to travel. Dr. Beal fully realized that he was tackling no short-time job, and his plans were laid to have this experiment run for 100 years.

From results already secured it is obvious that Dr. Beal's plans were wisely made, for with the seed of many kinds of weeds there appears to be little if any diminution of their germinating power after having been buried in the ground for 40 years. In fact, some appear to show up stronger at the end of 40 years than in any of the previous years. Note-

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SATSUMAS *Flourish on the* GULF COAST

By R. B. *Fairbanks*

¶The best methods for cultivating this golden crop.

THE growing of Satsuma oranges in the southern part of Mississippi, Alabama, Louisiana, Texas, Georgia and North Florida is increasing rapidly. Because this fruit ripens earlier than the round orange it generally finds a very ready market. The ease with which the peel slips from it is another thing in its favor. It is, therefore, no wonder that the growing of Satsuma oranges has reached the stage where it is no longer an experiment and has become an important industry in the Gulf Coast section.

It does well on a great many different types of soil. However,

well drained sandy soil with a clay subsoil a foot and a half to two feet below the surface, seems to be the type best adapted to the growth of the Satsuma.

Where newly cleared ground is to be planted, all stumps should be removed, the ground thoroughly prepared and planted the year before to cowpeas, velvet beans or some other legume crop. It is highly necessary to do this, because the land needs to grow at least one of these legume crops before the Satsumas are planted.

THE trees are usually given a distance of 22 to 25 feet each way. When planted 25 feet each way, 69 trees are required to plant an acre. Many growers with whom we have talked say the trees should never be given less distance than 25 feet each way. Planting in squares is the most common method.

Where crops are grown in between the rows of the young trees, it is advisable to leave a strip of three or four feet on either side, free of these crops, and give this strip frequent, shallow cultivation from early spring until the middle of August. Many of the best growers do not plant anything between the Satsumas, but cultivate the entire ground, except for the time when a summer legume crop is being grown to turn under and enrich the ground. Certainly no effort should be made to grow even any of the truck crops in between the trees after the bearing age is reached. Many of the growers, however, grow a sufficient amount of truck in between the tree rows until the bearing age is reached to almost pay the cost of growing the trees.

IN ORDER to keep a strong, vigorous growing tree, large amounts of plant food are needed. It is advisable to fertilize the trees at least twice a year and many growers give them three applications. An application of commercial fertilizer is usually given in February or March. The second application is given in June or July. If for any reason the trees are not making the desired growth, a third application should be given in August. When the last application is given, however, the amount of ammonia should be very greatly reduced, in order not to keep the trees growing too late in the fall. Usually the two applications is the method preferred by the growers; that is, the first in February or March and the second in June or July.

In fertilizing Satsuma trees, it is important to use not only the right analysis, but fertilizer made from the right materials. It will not do to make use of the same kind of fertilizer that is ordinarily used on cotton, corn, and other field crops, because these are not the kinds needed by the Satsuma.

It has been found advisable for the nitrogen to come from both inorganic and organic sources. Both nitrate of soda and sulphate of ammonia are advisable as the inorganic source, and tankage, dried blood, cottonseed meal, fish scrap, etc., for the organic source. The rule some of the best growers follow is to use 4% nitrogen, one unit of which comes from sulphate of ammonia, one from nitrate of soda, and the other two from the organic sources.

The phosphoric acid usually comes from acid phosphate, although some bone meal is sometimes used.

WHEN it comes to the potash, only the sulfate of potash should be used. A heavy percentage of potash is absolutely necessary, as it helps to harden the wood, color the fruit, and put it in condition to carry well to market. One thing that was especially noticed in the heavy freeze of early 1924, was the fact

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Why I Am

¶Although a professor at Bucknell University, Mr. Theiss has as lively an interest in farming as any one I know. His experiments with nut trees are only one phase of his farming operations.

THE situation with regard to success is exactly like that in respect to greatness: some men are born successful, some achieve success, and some have success thrust upon them.

My own experience with nuts, in the raising of which I am expecting considerable success, will illustrate both the accidental and the achieved sort of accomplishment, but not the "natural born" variety. I very much doubt if nature ever intended me for a nut culturist. But now that I have become one, and now that my eyes are opened to the possibilities of nut culture, I want to pass the word along, in the hope that it may loosen the scales from some other person's eyes.

I might briefly say that, though my business is the practice and teaching of journalism, I live in the country. When I left the staff of the old *New York Sun* and moved out to a real farm in Pennsylvania. I had no knowledge of farming and even less of nut growing. But a friend offered to send me a seedling Persian or English walnut tree, and I, being willing to try anything once, accepted the offer and planted the tree.

The tree grew and thrived. Also, it filled my head with visions of plentiful nut crops. I set out to learn about nuts. I found that seedling nut trees were just about as worth while as seedling apple trees, and that tender nut trees, like English walnuts, could be made quite hardy by being grafted on black walnut stocks, and that only such trees were fit for planting in a cold region like our central Pennsylvania.

TO MAKE a long story short, I ordered three varieties of the best English walnuts, grafted on black walnut stocks, that I could get from J. F. Jones, of Lancaster, Pa., our best eastern nut culturist. My trees are now eight years from planting. One has borne twice. Last fall three bore nuts. These nuts were as fine in quality as any I could find in the market, and had thinner shells than any of the commercial nuts. My grafted trees have withstood a temperature of twenty-five degrees below zero unharmed. My seedling was badly hurt by that cold weather.

The trees are stocky, thrifty, beautiful at all times, immune to most diseases and pests. Caterpillars trouble them a little and this past fall what I think was the hickory twig girdler pruned away a few tips. Otherwise, nothing harmful has happened to these trees in eight years, and they have had absolutely no attention, save a little hand hoeing the first year or two after setting.

Fruit trees handled in the same way would long since have given up the ghost. Yet here these nut trees are ready to bear as early as apples, sturdy, and in every way a delight

Planting Nut Trees

By Lewis Edwin Theiss

to the owner. If my experience in fruit raising is any criterion—I own and personally handle an orchard of eight acres—these trees will bear many nuts within a year or two, and eventually prove a source of much profit.

But English walnuts are only a start. Growing on our place naturally we have an excellent grove of perhaps twenty-five shagbark hickories. We have black walnuts and butternuts, and we had chestnuts. All produced good nuts.

In addition to these nuts I secured two of the best named varieties of black walnuts, the Stabler and the Thomas. These are grafted trees, made from wood of the original Thomas and Stabler trees. My Thomas walnut bore when it was quite small. The Stabler has been set out only a year. The principal objection to black walnuts is the difficulty of getting the meats out whole. The nuts are difficult to crack. The Stabler is a nut with remarkable cracking qualities, as well as excellence of flavor. It will be in great demand.

Among the walnuts I have both the Japanese walnut and the heart nut. The Japanese walnut looks like an elongated English walnut and tastes like a butternut. It is most excellent in quality, but because of interior shell compartments is difficult to crack well. The meats break in getting them out.

But its offspring, the heart nut, is one of the most remarkable nuts in existence. It is a flat, heart-shaped nut, with a shell like a hickory. And when you tap it with a hammer, it splits along the little ridges that mark its sides, and opens as nicely as a candy box. The nut, heart-shaped and excellent in flavor, drops out whole in your hand. There is no hard-shelled nut that approaches it for cracking quality. Like its parent, it tastes like a butternut. I have both the grafted Japan walnut and the heart nut, and also seedlings of both.

IN MY opinion the heart nut is *the* coming nut. Its hardiness makes it possible to grow it almost anywhere. Its precocity is truly amazing. It will fruit from seed in five or six years. But there is no certainty as to what it will produce. It is quite as likely to yield Japan walnuts as it is to give heart nuts. Grafted trees bear still younger, being comparable in this respect to Yellow Transparent apples. The tree is worth planting for its beauty alone, as it is one of the most ornamental trees in this country. The leaves are huge, some of those on my trees being a yard long. The blooms hang in clusters, like bunches of grapes. And of course the nuts are borne in the same way. Last spring I counted many clusters of ten to a dozen blooms on a tree owned by a neighbor of mine.

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The County Agent's Business Partner

By H. E. McCartney

This significant development that is taking place in Ohio will interest every county agent and farmer.

THE County Service Manager had come to the assistance of the County Agent in Ohio. This new worker is an outgrowth of development that has come since the Farm Bureau was organized and since that organization became the cooperating unit in the counties of many states in putting over the County Agent work.

The County Agent has always been a busy man carrying a heavy load. When the desire of farmers to organize and to cooperate in marketing and purchasing culminated in a new national organization, there was a natural tendency to let the County Agent do all the local work. Physically, it was impossible for him to do this. At least he could not handle a multitude of business items in addition to his regular tasks. The organization of the Farm Bureau in Ohio had added to the demands for his time to do practical demonstrational work and to assist in boys' and girls' club work and in community activities.

Then came an official letter from the Secretary of the U. S. Department of Agriculture saying in substance, "You can't do it. Lay off all business enterprises. You may tell the farmers that it is wise to cooperate, but you are not to do their business for them after they are organized. This is the law." The Secretary of Agriculture was interpreting the law and not expressing any personal feeling. Perhaps he would have desired it to be otherwise. Yet, as head of all cooperative extension work, he could do nothing except to obey the law and to see that those of us in his organization did likewise.

It might seem to be a serious situation to get the farmers worked up to a desire to cooperate and then leave them. It might be in some cases. However, when there is a problem to be solved, it usually happens that some one or some group comes forward with a practical solution.

IT WOULD appear that the County Service Manager idea "just growed." Who thought of it first no one seems to know. Which county used one first is immaterial. Perhaps some one jokingly said, "Let George do it." Some other, taking the remark seriously, went out and put George to work "doing it." The result of a recent count showed that 59 counties of the state of Ohio have Service Managers. Perhaps there are more now, for there is probably not a single county in the state that does not hope and expect to have a Service Manager at work before many months.

The employment of a County Service Manager is sponsored by the County Farm Bureau and he works for the Farm Bureau and its allied business organizations. In one county at the time the Service Manager started work he became the responsible head of the County Livestock Shipping Association, the County Grain Co., Manager of the County Unit of a large milk producing association, County representative of the Ohio Sheep and Wool Growers' Association. He assumed responsibility for Farm Bureau memberships and collections and for cooperative buying and in addition became the Secretary of the Farm Loan Board for the County. This is quite an imposing outline of duties and no doubt would be sufficient to keep any good man busy—almost as busy as a County Agent. Surely a county that would outline a list of duties equal to that would be ready for a Service Manager.

Immediately upon starting work the Service Manager becomes the partner of the County Agent and a most useful member of the firm. In Seneca County, Silas Vance, the Service Manager, said, "My duties and those of the County Agent cannot be separated. Every single one of our projects overlaps." The County Agent, P. J. Schmidt, and Vance work on opposite sides of a big desk when in their office. No one can see where the space for either begins and where the other leaves off Just so it was with the people out in the County. Usually they would refer to both men in the same sentence.

"Just what are the duties of a County Service Manager?" was asked of a man who had been on duty for several months in one of the Counties. He replied, "It would be easier to tell what I don't do."

Duties vary in different parts of the state. It may be that in the southern part a Service Manager may spend a greater part of his time on handling the tobacco pool. In others, dairying may be his major activity. In another, it may become his most urgent task to build up the Farm Bureau membership. In others, it may be necessary for him to side track any extensive work on other projects until he has

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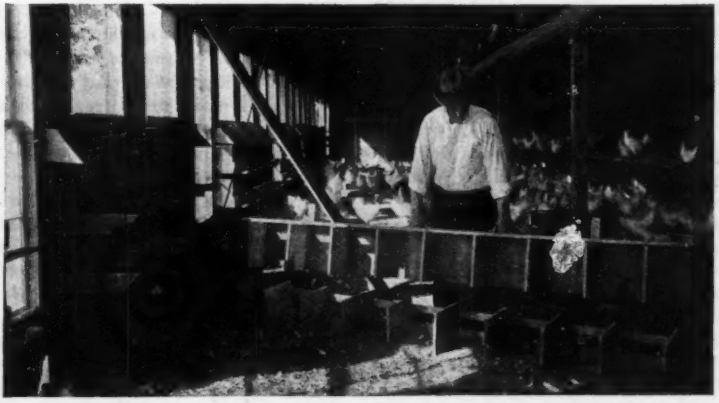
Some of the leading Service Managers in Ohio. Left to right: Philip Heim, Columbiana county; M. E. Foltz, Stark county; W. F. Peelle, Clinton county; Wallace Binegar, Madison county; J. D. Van Houten, Brown county; L. R. Kempton, Knox county.

Better Crops' ART GALLERY of the month

Pals

J. L. Foster, poultryman near Attica, Indiana, and a battery of his nests in one of his laying houses. "I have often found," said Mr. Foster, "that young pullets when they are first put into the laying houses and before they have become accustomed to their regular roosting place, will roost upon the edge of the nests. To prevent this I have made a light strip of pine to slide on two wires as shown in the picture. It takes only a minute to pull this strip up over the nests at roosting time."



"Another fine thing about these nests is that they are so constructed that I can take them apart, clean them out thoroughly and put them back on the wall in a very short time." This system has been worked out by Mr. Foster himself and might very profitably be copied by other poultrymen.

Controlling Farm Production

By *Arthur P. Chew*
U. S. Department of Agriculture

There is a vast difference between "orderly production" and "limitation of production." Mr. Chew shows how the individual farmer is in a position to make good profits by utilizing the former principle.

WHENEVER farmers get together there is sure to be talk of orderly marketing. Rarely do they discuss orderly production. Orderly marketing is considered practicable, while orderly production is not. It is supposed to be easier to control the movement of a crop to market than to regulate the size of that crop. Regulated production is thought to require nationwide or even world-wide agreements among farmers as to what quantities of field crops and livestock they should individually raise. As such agreements are clearly impossible, the idea of controlling farm production is usually given up as hopeless.

As a matter of fact, orderly production in agriculture is not only possible but practicable. Without it, indeed, there can be no orderly marketing, because a heavy oversupply of any product will break the shrewdest marketing scheme ever devised. Orderly production is not dependent on any plan for getting all farmers to limit their output. Nor does it call for grandiose programs for regulating the flow of products to market after they are produced. It simply requires the intelligent use of market information by farmers individually.

Regulated farm production has been brought within the range of practicability only within the last few years. It was useless to talk about it previously because the volume of crop and market information necessary to effect a proper adjustment of the supply of farm products to the demand was not available. Today, however, crop estimating and forecasting is at a pitch of accuracy and comprehensiveness that makes it of the highest practical value in adjusting crop production to market needs. Government economists and statisticians now forecast market requirements and main price trends with remarkable precision. Farmers are accordingly enabled to drop their old bad practice of determining their future production in accordance with the prices received for past crops. They can adopt instead the much more scientific system of anticipating markets.

Anticipating the future may sound risky. In agriculture, however, it is more risky not to anticipate it. Once livestock is bred and crops are in the ground, the farmer is practically powerless to influence the relationship between the supply and demand for his products. When

he launches his various farm enterprises without trying to find out what sort of a market he will have, he is assuming the heaviest kind of gambling risk. Economists and statisticians in the United States Department of Agriculture are authority for the assertion that he need no longer assume this risk to anything like the extent that it has been obligatory for him to assume it in the past. Farmers can now inform themselves, at least in a general way, what are the prospects for the overproduction or underproduction of any crop before they plant it.

THE bane of agriculture is unknown production for an unknown demand. This leads to alternate underproduction and overproduction. So regular is the swing of the pendulum that most farm products have a definite price cycle, the phases of which can be predicted. Farmers usually base their production plans on the prices they received for their last crops. They assume that one year of high prices will be followed by another like it. whereas the truth is that one year is followed by another in a course similar to that of previous cyclical price movements. An antidote is now in sight in the shape of regulated production for a known demand. All that is necessary is that farmers should learn to use economic information, and particularly forecasts of market demands and price tendencies, in planning their work.

This is not pure theory. It has had considerable testing. The purpose of this article is to give some instances in which available crop and market information was ignored by farmers with painful results, and other instances in which it was applied with good results. Crop estimating, of course, is not a new function of the Department of Agriculture. But the branches of it that enable farmers to adjust their production to the probable demand are comparatively new. Estimates of growing crops, forecasts of yields, forecasts of total production, world market information, price reports, and similar studies have been made and published by the Government for many years. Lately the statistical data thus gathered have been made the basis of "outlook reports," in which the department tells the producers of all the major crops what market situation they are facing and in some cases expresses a definite opinion as to what percentage of increase or decrease in production is required to effect a profitable adjustment of the supply to the demand.

Crop and livestock reporting by the department now covers 74 field crops and all classes of livestock. It is done by a staff of statisticians at Washington and in the field and by more than 300,000 voluntary crop reporters, mostly farmers. Agriculture has a long turnover, ranging from six months for field crops to three years or more for some livestock. It has therefore more need than any other business to anticipate the future, if its production is to be rightly adjusted to the demand. Accordingly, the department boldly makes production and price forecasts.

It estimates winter wheat production early enough for the information to be a valuable guide to spring wheat growers. It forecasts hog prices months in advance with remarkable accuracy, on the basis of production surveys and analysis of factors influencing the demand for hog products. It predicts the phases of the cattle cycle and the sheep cycle. It tells farmers by what percentage flax acreage can be increased without danger of putting flax on an export basis. And it gives this information in a form in which the farmer can use it. Instead of telling him in round numbers how many bushels of wheat or pounds of pork will be required for the next market, it advises him what per-

centage of change in production will be required to balance supply and demand. Then the farmer can tell whether he individually is contributing to overproduction or underproduction.

NOT many farmers are awake as yet to the practical value of this service. In 1919 the potato growers received the high price of $2.24 a bushel for a small crop of 323,000,000 bushels. They were warned not to assume that prices the next year would be equally high. But they did not heed the warning. They increased their potato acreage, raised 403,000,000 bushels in 1920, and had the mortification of seeing the price drop to $1.32. But this price slump did not stop the leaning toward overproduction. Production was again increased, and in 1922, for a crop of 453,000,000 bushels, the growers received only 74 cents a bushel.

Flax growers paid dearly in 1912 for failing to post themselves on the world trend in flax production. Abundant information on the question was offered them but they ignored it. A short crop in 1910 had brought the high average price of $2.38 a bushel. Acreage was accordingly increased, and the price went down to $1.94. Another increase in production the next year forced the price down considerably lower. It was not until 1914 that reduced production of flax again made the crop reasonably profitable. While the overproduction of 1912 was a world affair rather than a purely domestic one, our farmers materially contributed to it by their failure to understand that the high price of 1910 was not a guarantee of continued high prices but was rather a warning to look out for a reaction.

Such avoidable maladjustments in production are one of the main reasons why the farmer has no certainty of a reward for his work. According to the Department of Agriculture, acreage is practically as important as yield in determining farm production. It has been objected that agricultural output can not be forecast or controlled because it is impossible to tell what the rain and the sunshine will do. The reply is that 50 per cent control is possible through the regulation of acreage, and such a degree of control is not to be despised. It has been established that price changes in cotton are normally about 95 per cent attributable to change in production. Changes in the demand for cotton have only a slight influence on the price. Farmers go wrong in judging their own mass action in producing a crop. It is estimated that changes in cotton production are at least 50 per cent due to acreage changes. This is a controllable factor that is not of decisive importance when the cotton market is undersupplied as it is at present, but the increase of cotton production in other countries may make it of decisive importance before many years have passed.

Orderly farm production, says the department, depends on three things—advance knowledge of probable demand, information as to available supplies, and action by farmers, not collectively but individually, in regulating acreage and livestock breeding. There is no difficulty as to the first two essentials. The demand for farm products, in ordinary times, does not change much from year to year, and abundant facilities exist for obtaining information as to available supplies. It is more difficult to get farmers to act as the changing market situation requires.

SO FAR there are more cases in which farmers do not take advantage of the economic service put at their disposal by the Department of Agriculture than there are cases of the opposite kind. Nevertheless, they are learning. Potato growers seem to have profited by their costly

(*turn to page 38*)

The Bad Guesses Of Critics

By E. W. Howe

LAST summer I was invited to attend a celebration in a rural neighborhood called Prairie View. A feature of the day was a dinner after the speaking. Every family had a specimen of its cookery on the table. Everything was well-cooked and wholesome, and the list included nearly everything used in the ordinary human family as food.

Therefore H. L. Mencken astonished me lately by declaring in a magazine that "to encounter a decent meal in an American family home of the middle-class, simple, sensibly chosen and completely cooked, becomes almost as startling as to meet a dollar rolling up hill."

All those represented at the Prairie View dinner were of the middle class. There is neither a very rich nor a very poor family in the neighborhood, but it has not a home where a decent meal is not only frequently, but almost regularly served. I have lived a long time, and dined in many different homes in the country, where I have always lived. I can almost count on the fingers of my two hands the bad meals offered me..

Mr. Mencken is a bachelor, born and bred in a city. If he will visit me, I will point out a dozen country girls. If he will marry one of them (which he possibly might do, as he is young, good looking, and makes a comfortable living as editor of The American Mercury,) I will bet him that in a year he will confess he has all his life been ignorant of real women; that he will confess his remaining a bachelor, which he now regards as wisdom, was really stupidity.

I think every big-town man should marry in the country. Perhaps our most capable men are found in cities, where there are the biggest jobs, but in rural places are found the most womanly women. As a very general rule, when a man in the country develops unusual cleverness in baseball, prize fighting, literature, business, a scout soon finds him and offers promotion, but many of the finest women remain in country places all their lives, and are never heard of outside their own neighborhoods.

What have the women done to Mr. Mencken to cause him to become so critical? They have treated me so well I confess great admiration for them.

Eliminating *the* Waste *in* Agriculture

By Dr. Robert Stewart
University of Nevada, Reno, Nevada

Have we a right to complain of the farmer's hard lot while we tolerate so much waste in agriculture? Dr. Stewart points out some of the worst cases and suggests some remedies.

SECRETARY HOOVER in 1921, while President of the American Engineers Council, appointed a commission of seventeen well-known engineers to make a survey of six basic industries in the United States and report upon the effects of the business depression upon industry with recommendations for changes as they saw them.

This commission found an astonishing waste in these industries. There was waste in labor, waste in raw material and waste in efficient management. There was an average of fifty per cent waste in raw material and industrial effort, much of which could be saved.

Much of the burden on the manufacture and labor came through seasonal operation and limited output. The distributors were carrying needlessly large stock, many items of which moved very slowly thus eating up the profits.

It has been estimated that ten billions of dollars could be saved in industry by standardization and simplification whereby much of this waste could be eliminated.

Recommendations along these lines were made to the industries concerned and have been put into actual practice by many operators with very marked and gratifying success.

One manufacturer reported that "Simplification increased our sales twenty-five per cent, reduced our costs thirty per cent and gave us all-year-round production."

Bricks, slate, lumber, asbestos paper, millboard, building hardware and other commodities have been affected by concerted agreement of all groups for the reduction in number, varieties and size. In a word, these items entering into the construction of a building *were standardized.*

AGRICULTURE could profit very materially from a similar study and the adoption of similar methods for elimination of waste. Farm profits could very materially be increased by the elimination of waste on the farm and on the way to the consumer's table.

There are various ways in which economic waste occurs on the farm

which, if allowed in any other industry, would wreck that industry and which can easily be eliminated.

There is a marked waste in time and labor in the production of many crops. It takes about one hundred and twenty days of actual labor to produce a crop of wheat or barley. There are three hundred and sixty-five days in a year, fifty-two Sundays and three general holidays. The single crop wheat farm must therefore be idle about one hundred and ninety days out of the year. A similar condition prevails in the production of cotton and in many cases with rice and alfalfa. On some of the government reclamation projects many of the farmers are in distress. Yet ninety per cent of the entire area is in a single crop, alfalfa, and the farmer is idle three-fourths of his time.

John Fields, a practical farmer of Oklahoma, says in this connection: "Working four months of the year putting out and harvesting a crop of wheat, then sitting by the other eight months wondering how we will live, is not farming; it is merely wheatgrowing. The wheat grower must go to farming. Regular production, growing something every month in the year is the salvation of the wheat farmer. Even the government cannot save the one crop farmer."

A survey in 1920 in Kansas, the great wheat state of the Union, showed that there were 165,286 farms the average size of which was 274.8 acres. On 54,152 farms there were no milch cows, while on 74,330 farms there were no beef cattle! On 104,153 farms there were no beef cows two years old or older. 48,999 farmers bought all salt pork, bacon and ham. On 42,434 farms there were no sows or gilts for breeding purposes. On 28,600 farms there were no eggs or poultry produced for sale, while 41,611 farms were without gardens. These were the single crop wheat farms.

Cannot these farmers so organize their work, as the manufacturer has done, to secure all the year round production and thus eliminate this element of waste in agriculture? This is one of the advantages of diversified farming.

THE waste in agriculture from plant insect pests and diseases amounts to enormous sums each year, a large part of which could be controlled by the farmer.

In a single year the late blight of the potato caused an estimated loss of ten million dollars to the farmers of New York State alone and probably one hundred millions to the potato growers of the United States. This disease and this loss could easily be controlled by efficient spraying with Bordeaux mixture. There are twenty-two diseases and fifteen insect pests affecting the potato plant alone!

The loss from smut or bunt in wheat in some years is estimated to reach twenty-five million dollars annually. Yet this disease can be easily and effectively prevented by the simple copper carbonate dust treatment of wheat which has been proved to be one hundred per cent effective. The remedy is simple and easily applied.

Poisonous plants take an enormous toll every year from the livestock men. In the national forests alone it is estimated that 6,000 cattle and 16,000 sheep are annually killed from eating poisonous plants.

Yet the facts relative to the economic control and elimination of this waste are known and if adopted generally would result in a large saving to the stockmen who use the national forest for grazing.

Poisonous plants are more dangerous at certain times of the year than at other times. Care should be exercised in pasturing on known poisonous areas during these periods. Plants that are stunted or wilted are more apt to develop poisons than those which are vigorous. Overgrazing must there-

(*turn to page 32*)

A Field that Needs Cultivation

By *Nesnah A. Trebla*

(This is an important article. For further comment on it see "The Editor's Own Pages."

RECENTLY while conversing with an editor of one of our leading national agricultural magazines, I asked why it was that articles by county agents were conspicuous by their absence in his publication. He replied that although there are over two thousand county agents in the United States, not a single acceptable manuscript had been received from one of them during the past year! Which seems very strange, since county agents are at the very fountainhead of new facts and new experiences in agriculture and one would expect them to be prolific contributors.

It is certainly true that scientists and extension workers possess a mass of good material that needs to be spread broadcast. And that is the main reason why the present scribe is trying to fulfill a recent request from our friend Jeff to write a few suggestions that may possibly help county agents, scientific workers and other readers of BETTER CROPS to put their ideas on paper so we may all have the benefit of their knowledge.

LET us start at the beginning of every article—the introductory paragraph. How frequently do we weary our brains at the very outset by trying to read a tedious, formal sort of opening that tempts us to turn the pages to a more refreshing start! Tell a story, ask a question—use any legitimate device to create initial interest. If the interest of the reader is aroused right off the bat, the story reaches first base before the opening paragraph is finished.

An important point that adds to the readability of any article is to bring the story down to the individual whenever possible. General statements and abstract principles are not always easily understood, but when brought down to the individual — ah! that's different. When a huge boulder imprisoned Floyd Collins in a narrow cave sixty feet below ground, his plight aroused the sympathy of the entire nation to an extent that devastating tornados, destructive fires, ruinous floods and other great disasters involving hundreds and even thousands of victims have never done. Why? Because the experience of the individual can readily be pictured in the mind's eye, while the plight of hundreds is beyond human comprehension.

All this is particularly true when writing for farmers. The individual farmer doesn't care a rap for glittering generalities—he likes to hear what the other fellow has done. Surely if some other farmer has

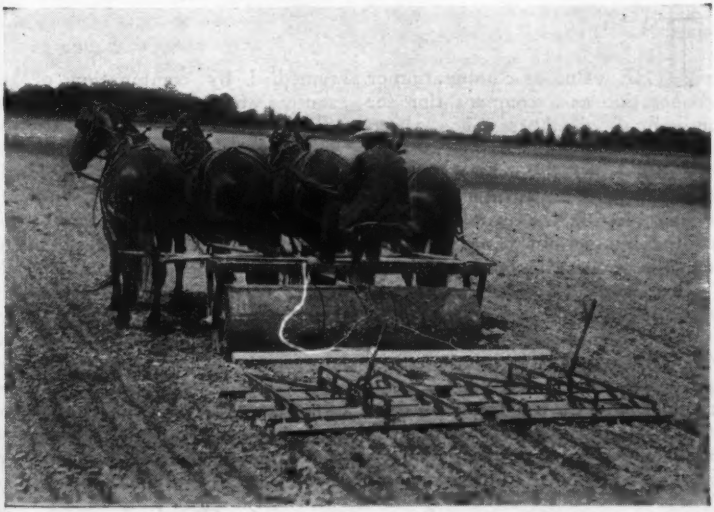
raised a hundred bushels of corn per acre or a ton litter in six months, he can do likewise. Bringing the story down to the individual adds a touch of human interest and human interest is what puts a story across.

A FEW years ago I wrote what was perhaps a fairly good thesis on the relation of the legume tubercle to better farming and submitted it to an agricultural paper for publication, but this particular manuscript-ural chicken came home to roost accompanied by the familiar polite rejection slip that "implied no lack of merit." I rewrote this story, centering the action around a farmer who used a new method of inoculation, told the why's and wherefore's, gave data on the results secured and was rewarded with that greatest phrase in English literature, "enclosed please find check."

A little originality in style—away from the cut and dried formalities—also goes a long way in helping to make a point stick in the modern jaded-by-reading brain that reads much and retains too little. I once heard a noted educator state that the average man remembers one-tenth of what he reads, three-tenths of what he sees and six-tenths of what he does. If this is true, writers should aim to present their thoughts in as interesting, original and striking a manner as possible in order to increase that one-tenth as much as practicable. Due to improved printing methods that permit greater rapidity and bulk, this is a reading age, but I doubt if we retain as much of what we read as did our forefathers.

Another point—the soul of good writing is brevity. Say what you mean in as few and simple words as practicable. But always bear in mind that the things that seem perfectly simple to you may be entirely foreign to your readers, so do not be afraid to tell the whole story. The six fundamentals of a good newspaper story are "who, why, when, where, what and how," and these five w's and an h may furnish a simple test for your own story.

(*turn to page 34*)



Good pictures that tell the story are an important part of any manuscript. Little explanation is needed to point out the saving in labor here illustrated.

We present here the winning answer of B. M. Drake to our second prize question. The excellence of the manuscripts submitted again made the work of judging difficult but we felt that Mr. Drake presented his argument most forcefully. We are also printing the answer submitted by Sam D. Preston because of its balance and sanity and we wish to give honorable mention to the answers submitted by I. N. Chapman and I. D. Boggs, and thank all those who participated.

THE EDITORS.

Should Farmers Organize *to* Improve *their* Economic Condition?

PRIZE-WINNING ARTICLE

By B. M. *Drake*

County Agent, Summerville, Ga.

THE value of combination or cooperation as a compensation for individual weakness has been familiar to most of us since we read the First Reader story of the dying father's illustration of it with sticks resisting the strongest effort in the bundle but readily broken when taken separately.

Combination of powers or resources becomes more effective and permanent through organization. This principle has been applied advantageously in civil, commercial and industrial life. Illustrations are not far to seek in the tendencies and accomplishments of modern banking, manufacture and labor.

The farmer's economic disadvantages are due largely to weaknesses that can be most readily remedied by combination of resources and powers. Such are the great number and small size of individual businesses, and consequently highly developed individualism: general ignorance of methods of handling their marketing problems: preoccupation with details of production: the small volume produced by the individual: prevalent ignorance of standards of quality.

Organization should be able to do for the farmer's small business what the labor unions have done for the interests of the individual laborer to assure him a fair deal and due consideration of his claims in bargaining. It should also modify his individualism to fit his interest. It should enable him to employ expert service in marketing his product. It should provide suffi-

cient volume to pay for advertising and other overhead expenses. It should educate him in the proper preparation of his product for market by establishing and enforcing standards. And it should help him to forecast production and demand so that he may better adapt his own production to the demand.

These things may reasonably be expected of organized cooperation, not all at once nor equally in all kinds of farming, but gradually and to a worth while extent.

These things have been and are being done more or less successfully in many lines and many places. A few illustrations will serve to make this clear.

IN 1918 in Coweta county, Ga., a small swine marketing organization was started which provided facilities for grading and loading hogs. On the day of the first sale dressed hogs were sold on the local markets for 18 cents per pound (which price the protests of individual farmers had had no effect in raising.) One car load of hogs brought to the sale brought just under 20 cents on foot F.O.B. the car, and the price of dressed hogs on the local market rose to 23 cents. And since that time local prices have kept in line with general prices, due to the fact that the organization with its facilities for marketing can at any time dispose of a surplus or meet an unwarranted price decline, by holding a sale. The same thing has happened in many other counties, where through organization farmers were able to get their product out of the local eddy into the main current of the supply and demand movement.

A familiar illustration of the educative value of a great marketing organization is that of the citrus fruit growers of California, which in addition to signal services in bargaining and distribution, has accomplished wonderful results in getting the product properly graded and packed. And this is only one of many that could be named that have profited their members and greatly improved their economic condition.

As yet these organizations have had little development along the line of adjusting production to demand but it is not unreasonable to expect them to render this service in the future.

Some farmer organizations have failed and no doubt others will do so, but that is aside from the question so long as it can not be shown that failures are necessary or disastrous. The number of successful organizations now existing refutes the first supposition. And it seems to be true that even the farmer's organizations that have failed to show a money profit or have failed to persist have had an educative value that made them worth while, and formed a foundation for better organizations that followed.

Although organization is not a panacea and there are still many problems to be solved yet theoretically it should, and practically it does, improve the farmer's economic condition and it would be very foolish for him to fail to use it.

Farmers Should Organize—But?

By Sam D. Preston

County Agent, Flint Hill, Va.

SHOULD farmers organize to improve their economic condition is just the question that has revolved in my mind for some time. I have just about come to the con-

(*turn to page 31*)

The Editor C

BETTER CONTRIBUTIONS

I cannot refrain from calling particular attention to the article in this issue on "A Field That Needs Cultivation."

In looking back over two years work on BETTER CROPS I am most pleased at the fact that we have been able to serve as a medium for the exchange of experiences and experiments among extension and scientific workers.

To a remarkable degree our readers have cooperated in sending in accounts of their work from which others could gather helpful information. Yet I feel we have barely scratched the surface so far.

The greatest difficulty I have encountered is the form in which contributions are submitted. County agents and other extension people as well as research workers are kept pretty constantly occupied. They spend so much time in *doing* that they have little left to analyze and report on what they are doing. There is even less opportunity to study and perfect their means of expression. The result is that I receive scores of manuscripts that contain good ideas so badly expressed that I cannot use them. Even some of the articles I have printed could be greatly improved by a careful revision.

I am naturally eager to raise our editorial standards,—to make our contributions more interesting and useful. In writing recently to one of our contributors I complimented him on the excellent way in which his material was submitted and I suggested that he might give the benefit of his experience to our readers.

He has courteously consented to do so and, under the pen name of "Nesnah Trebla," has set forth some of the more important principles that underlie the preparation of good manuscripts.

To many this may seem like an elementary subject but I know from experience that it is much needed by the majority of our readers.

It is a curious fallacy, entertained by many, that so long as you tell the truth nothing more is needed. Far from it, brother! You must not only tell the truth—you must make the truth *attractive*. You can talk yourself black in the face and still make no impression if you do not know how to talk in terms that your audience understands and to present your ideas in a persuasive and interesting form.

Dean Davenport once said "Of all occupations, farming is the richest in facts and the poorest in comprehension." That is well worth meditating on. Why should the quacks and fakirs have a monopoly of persuasiveness? Why shouldn't the art of interesting and convincing people be used in the service of truth?

Having said my say, I will repeat my invitation to our readers to contribute articles or items appropriate to our purpose. Every manuscript we receive is read carefully and sympathetically. If it is not suitable and stamps are enclosed, we will return it and I usually try to explain to the author our reasons for not accepting it. If it is accepted, you will be notified within a reasonable length of time and payment made upon publication. There is an opportunity for everybody to say something in our pages if they will observe some of the advice offered in Mr. Trebla's article.

Jeff McDermid

$20 Prize Question

THIS month you will find the prize-winning answer to the second of our prize questions on page 22. Here is the next question for you to answer:

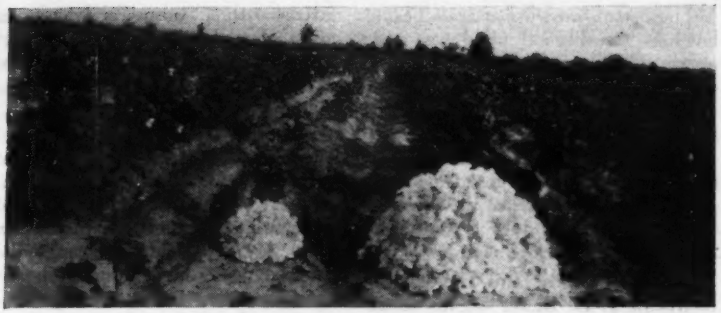
How Can County Agent Work be Made More Effective and Valuable?

This is the fourth of five questions which are being asked monthly in our pages. The best answer will receive a prize of $20.00. There are no restrictions except on length. Answer it any way you like. We want a clear and convincing presentation of why you believe as you do on this subject. Just make your argument brief and to the point.

Answers to this question must not exceed 800 words. They must be mailed before midnight September 6th. The winning answer will be published in our October issue. The Judges will be the editors of BETTER CROPS. In the event of a tie, the full amount of the prize will be awarded to both contestants. The judges reserve the right to withhold the award in the event that none of the answers is deemed worthy of publication in BETTER CROPS. BETTER CROPS reserves the right to publish any manuscript submitted in this contest at the regular rate of one cent a word. No manuscripts will be returned.

Send your answer before September 6th to

JEFF McDERMID
Better Crops Publishing Corp.
10 BRIDGE STREET NEW YORK CITY



Showing relative yield of cotton with potash fertilizer (right) and without (left) on farm of J. B. Baker near Tolar, Texas.

Fertilizers *for* Texas Cotton

By Worth Brewer

TEXAS cotton planters are realizing that they cannot turn to new land when the soil they have cultivated for a few years loses its virgin strength, as they could a generation ago when land and labor were cheap. They have learned the value of irrigation, proper drainage, and seed selection, but within the last few years the progressive element have become convinced from experiments that the most direct method of getting the most from old land or land hitherto considered unsuitable is by potash fertilization.

A check strip of cotton on farm of J. B. Baker.

The cotton-growing area of Texas has been steadily extended west and north, where a few years ago it was thought to be too sandy. Besides this part of the state was believed to be suitable only for grain on account of the short season and colder climate. Last year the lower plains country, south of the famous "Panhandle," produced the best crops of cotton in the state.

As for the sandy land, the experiments of J. B. Baker on his farm about 25 miles southwest of Fort Worth, indicate what can and will be done to make cotton raising profitable on this type of soil. Mr. Baker fertilized alternate rows of cotton with a commercial fertilizer containing 50% acid phosphate, 30% potash, and 20% nitrate of soda.* This was used at the rate of 200 pounds per acre. The rows in the check strip were of equal length and all conditions of cultivation the same. An unfertilized row in the center of the patch yielded three pounds while the fertilized row next to it yielded twenty-one pounds. The same proportion was maintained on the entire strip, convincing Mr. Baker that poor land is expensive.

*EDITOR'S NOTE:—Assuming the potash to be derived from muriate of potash this would mean a 3–8–15 (NPK) formula.

Why I Am Planting Nut Trees

(*From page 9*)

I have asked the nut experts of the United States Department of Agriculture as to their opinion of the best nuts to plant, and they, too, think that the heart nut ought to be a winner. This year, 1925, I am making a commercial planting of nuts, and it will consist largely of heart nut trees.

My list of nuts does not end here, however, for I have three varieties of pecans. These are the northern varieties developed in Indiana and Illinois. They are grafted trees. They, too, have withstood the cold temperatures mentioned, and were unharmed. They have grown excellently. These trees do not bear as early as the English walnuts. They have blossomed twice. This spring I think they will bear. It is the habit of these trees to bloom a few years before bearing.

My hard-shelled almonds bore at three years of age. These are Ridenhowers. They are not to be recommended for commercial purposes, but are good enough to plant if one has a desire, as we have, to grow on our own grounds everything we want that will grow there. These are purely for home consumption.

Two varieties of European filberts have done excellently. When they were just ready to bear I had to dig them up and move them. That set them back. But there is no question that they will bear soon and generously.

Purely to gratify a whim to make my nut plantings complete, I also have set out the beechnut. But it would be tedious work getting a "mess" of beechnuts.

Chestnuts, I said, had existed on our place. In fact, we had a whole woods full of them. Also, I had some Sober Paragon grafts started on native suckers. But the blight got them all. Now I have a Chinese chestnut and a Parry chestnut, the latter having been obtained from Mr. E. B. Riehl of Godfrey, Ill., who has been working with chestnuts for years and who says that this particular variety shows high resistance to the blight. The

Chinese tree is believed to be almost blight proof. If these fail, I shall try again.

ALTOGETHER, I now have eleven varieties of nuts, and the number of our trees totals several scores. These trees were all set out, in the beginning, purely for the novelty of the thing and to provide a home nut supply. At the same time I started my fruit orchard. I have several hundred fruit trees. I had several hundred more. But I tried to raise them on the "easiest way" plan and it didn't work. When too many of them succumbed, I adopted the "hard work" plan of orcharding, and in consequence we now have a mighty fine little orchard, that is coming nicely into bearing.

The author, L. E. Theiss

But all this time my nut trees have been coming on with practically no care whatever. I wish now that I had really cared for one of them, merely that I might know what it would have done with proper attention. You see, fruit trees having so long been cared for by man, have largely lost their power of self protection. Nuts, on the other hand, having always had to rustle for themselves, have developed to a high degree that power. So nut tree culture is altogether in the farmer's favor.

The question is. Can he find a market for his nuts if he raises them? And here is where the surprise comes. Commercially, nuts offer probably a better prospect than almost any other crop one can mention. To be prosperous as a wheat grower, the farmers have to sell hundreds of millions of bushels of wheat abroad. Let the foreign market fall off, as it has in recent years, and see what happens to the wheat raiser. The apple producer must market millions of bushels of fruit in other lands. Every new apple producer has to face stiff competition when his trees come into bearing.

But what about the nut situation? Stop, look, and listen. We consume annually in America something like $150,000,000 to $200,000,000 worth of nuts. The demand is growing by leaps and bounds. And we *produce fewer than half of these nuts at home.* We have to import half of all the nuts we eat. Here is a market that does not have to be jimmied open. Here is a market crying out like Oliver Twist for more. There isn't any question that any farmer who has nuts can sell them. And what is more, he can sell them right at home, at retail, and get all the profits.

That is why I am setting out nut trees this spring instead of apples. I have a nice apple trade established but I have to meet great competition. If I had nuts, as I shall soon have, I could sell them right and left. For I know for a certainty that my home-grown English walnuts are as fine as any English walnuts in the market. My black walnuts will class in the same way. And the heart nuts will sell themselves.

I AM not planting nut trees as an experiment or because I have read that it is a good thing to do. I've tried it and proved it. *I know* that I can raise good nuts. I am doing it now. And I know that I can sell all I can raise.

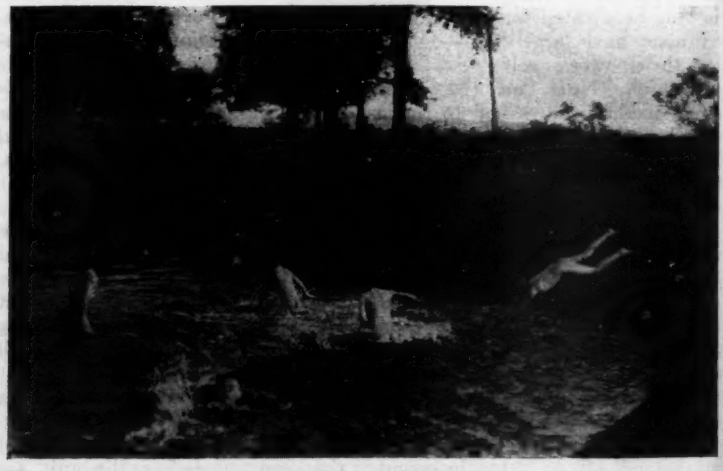
There are lots of other advantages about nuts. They come late, so that the apples can be picked and the corn cut before the nuts are harvested. Farmers needn't worry

if they do drop. They won't bruise like apples. And finally, the kids can attend to the whole crop, after school hours.

Of course, if one had a big orchard of them, that would be different. But I wouldn't advise any farmer outside of a specialized nut-growing district to plant a whole orchard of them. The thing for the farmer to do is to put a few nut trees about his home, as ornamentals, and along his lanes, and in other places where they won't conflict with the usual agricultural processes. Take care of them for two or three years. A minute's hoeing once in a while and five cents' worth of nitrate of soda a year will bring them on thriftily. When they are properly rooted, in two or three years, they will begin to jump skyward and the farmer won't need to bother with them if he doesn't want to do so. In a few years' time, the owners will be picking gold dollars from them.

Every farmer would be more prosperous if he had more of these side products. Think what it would mean to the average farmer if he could go out each autumn and pick up one hundred dollars under his nut trees—one hundred dollars that he did practically nothing to earn except to pick it up. That's what I expect to do some of these days, and that is what any farmer can do who will buy a few grafted nut trees of selected varieties, of the sort of nuts that grow best in his locality. That means primarily shagbarks for New England, black walnuts for the central part of the land, pecans for the South, and English walnuts for the Pacific Coast.

As for me, I'm going to try them all. But that is merely to gratify my desire to know something about nuts. Commercial success I expect to achieve through specializing in a few sorts that do best with me. When one has had a successful start thrust upon him, it would be too bad if he did not go on and in addition achieve a little success.



The ole' swimmin' hole

Farmers Should Organize—But?

(*From page 23*)

clusion that the answer is yes, and no. This affirmative and negative answer to a single question is arrived at by close observation of various conditions that have come to my notice during the past few years as extension worker. At the present time, the County Agricultural Advisory Council, Marketing Specialists and myself, as county agent, are asking ourselves this very question with reference to our county.

IN DETAIL, some of the questions that have come to our attention in this connection are: Do the people of Rappahannock county know enough about organization work to really stick together? Is there a proper spirit of cooperation among the farmers, and if they have these prerequisites, do they want to go to the trouble of organizing?

Will the economic improvement warrant the additional energy and cost? Are the farmers themselves interested enough to take hold and make the organization a success, or will it be up to the county agent to hold the organization together?

Will an organization in this county prove more successful than one attempted in a neighboring county? Is it best to organize with a few and take a chance on others being converted and pulling the organization through, or should the farmers be gradually educated up to the point where they really want an organization before attempting it? And lastly, with reference to marketing organizations, the question is, is it better to do some educational work along the lines of quality production before the organization is perfected, or should this be done after the organization is working.

I have in mind a farmers' organization that has improved the economic condition of the county from $30,000 to $50,000 dollars annually, and I also have in mind one that has not done the county any good and has been a constant thorn in the flesh of the county agent who has spent a great deal of energy in trying to make something of it. In addition to the energy that he wasted it has been detrimental to his progress because the conscientious objectors to agricultural extension work have taken a great deal of pride in pointing to that one thing as an outstanding failure of his.

IF TIME is taken to educate the farmers up to the proper attitude of cooperation I believe that organizations will prove beneficial economically and otherwise. There is danger in haste, and I am firmly convinced that one of the poorest ways to organize is to let a professional come into the county and make a fiery speech and close with a general signing on the dotted line. The professional always pictures the bright side of an organization and never intimates that there can possibly be a riffle in the tide of prosperity that is bound to follow.

I have a general understanding with every specialist in organization work that comes into my county that he is to put as much emphasis on the points that will lead to failure as those that make for success.

We have just perfected the first organization in my county. We have talked about it for the past two years. There was no professional organizer, it just grew out of the discussions at the Agricultural Advisory Council meetings and the farmers themselves did the job. The county agent does not feel that

he is responsible for the success or failure of it, but he does feel confident that it will be a success.

Now in conclusion, I wish it clearly understood that I am not a pessimist, but I do believe in the old adage that "haste makes waste," of energy, and does more harm than good oftentimes in trying to improve the economic condition of the farmer. I am sure that farmers should organize to improve their economic condition, but organization should not be attempted until the farmer himself is made to feel as I do about it.

Eliminating the Waste in Agriculture

(*From page 19*)

fore be guarded against. Various simple precautions of this sort will eliminate a large part of the waste from animals dying from certain poisonous plants.

THERE are many other ways in which waste occurs in the production of farm products and which should be eliminated. There is waste in farming poor land. Some of this, such as hill land, should not be farmed at all but should be allowed to go back into sod or forest.

The economic merchandizing of the crop produced is of course very important, but it is valueless to rave about our system of marketing if the crop is produced at such a high cost of production as to prohibit a profit at any possible market price.

There is a tremendous amount of waste in the marketing of farm products. It is the common practice to place all the blame for our present inefficient marketing system on the middlemen, but a large part of the blame really should be placed on the farmer himself who has the power to eliminate much of this waste.

The shipment of farm products in car lots would save much waste and is more efficient. The rates on car lots are less than on smaller quantities. Car lots also move with quicker dispatch; they go straight through to their destination while less than car lots have to be transferred frequently several times which results in loss of time and increases the possibility of injury and deterioration.

Individual farmers frequently do not have sufficient quantity to make car lots of a given farm commodity, hence the necessity of cooperating with their neighbors and pooling their resources so as to make car lots, resulting in saving of freight and prevention of waste.

IN MANY farm communities it is difficult to obtain any quantity of a given uniform farm product because of the great number of varieties grown. The price is consequently reduced a few cents per bushel or pound and the farmer is the loser thereby, and there is economic waste due to lack of standardization.

In some sections some good work has been done to eliminate this waste. The Kansas Station in 1906 developed a strain of Turkey Red wheat known as Kanred wheat which was well adapted to Kansas conditions. In 1923 it is estimated that 45,000,000 bushels of this variety were produced in Kansas alone. Undoubtedly within a few years this will be the principal or only variety grown in Kansas. This is standardization.

In the shipment of potatoes it is still the practice in many sections of the country to ship all sorts, sizes and conditions of potatoes together. Large, fine potatoes are mixed with

small, gnarly and bruised ones. The result is that the price is lowered to the producer since such shipments must of necessity be sorted at the shipping terminal and properly graded before they can be sold to the consumer. The producer is out not only the weight of the discarded potatoes but also the freight on the shipment and the cost of labor of sorting. This is all economic waste.

There is also waste in the storage of potatoes varying from four per cent to twenty-five per cent. A small amount of the waste is inevitably due to slow loss of moisture from the potato and consumption of the organic matter of the potato in a normal life process. Much of this waste, however, could be easily prevented by care in the prevention of mechanical injury during harvesting and by proper methods of storage.

In the shipment of many farm crops there is large economic waste due to improper containers or wrong loading in the car. With potatoes, for example, due to improper loading there is frequently loss due to overheating in the spring and summer and from freezing in the winter. By proper precautions these losses may largely be overcome.

There is also a large loss due to breakage of containers due either to the use of wrong kind of containers or to the wrong method of packing them in the freight car. Such losses should be studied and overcome.

There is a really enormous economic waste due to deterioration in quality and decay in shipments. This is particularly true of perishable vegetables or fruits such as potatoes, lettuce, melons, apples, etc. Such losses are frequently due to congestion at freight terminals. Methods must be devised to overcome such congestion and to eliminate this waste in the marketing of farm products.

There is a tremendous waste in agriculture from farming land that is badly in need of drainage. Land which is water logged or heavily charged with alkali produces poor crops at a high cost of production. Yet large areas of land under irrigation are heavily impregnated with alkali and badly in need of drainage. In humid regions there are vast areas of land which are so badly water-logged that only poor yields are possible at a high cost of production.

Soil erosion is another important waste in agriculture which could easily be prevented. It is estimated that over ten million acres of agricultural land have been ruined by wrong systems of farming from soil erosion alone. Land which is depleted in organic matter is readily lost by erosion. Land which is cultivated and plowed in a wrong manner is subject to erosion, especially if it is sloping land on a hillside. Thousands of acres of land in the northeastern part of the United States are being used for cropping land which should never have been used for any other purpose than sod or trees. It should now be allowed to revert to its native state and would produce trees and pasture more economically than cultivated crops.

Finally, land which has been deprived of its plant food by unwise use should be built up by a definite planned system of soil improvement by the proper use of limestone, manure, legumes and commercial plant foods.

This issue completes the fourth volume of BETTER CROPS. *Any readers who are desirous of having their copies bound or who would like to purchase any of the bound volumes of the magazine from I. to IV. are requested to communicate with M. E. Hidden, 10 Bridge Street. The entire issue of May 1925 has been exhausted and can only be supplied in bound volumes.*

A Field That Needs Cultivation

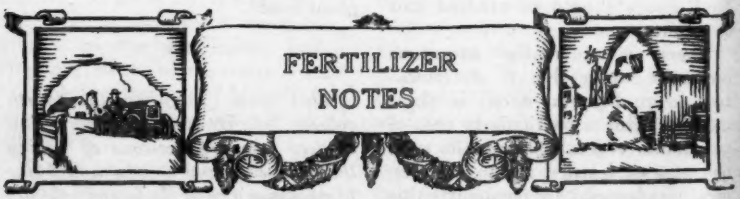
(*From page 21*)

The first step in the preparation of a manuscript is the selection of a subject, and no subject should be considered that does not convey valuable information. In this connection, things that are *new, successful* and *timely* furnish the best material. Perhaps fifty per cent of agricultural journalism is devoted to stories of successful individuals, because here lies both inspiration and human interest. Then there is the element of timeliness. Why send the editor a story on the new copper carbonate treatment for preventing stinking smut after the seed has all been sown? After a manuscript is submitted, perhaps two months will elapse before it breaks into print, so be prepared and think ahead. The triplet *new, successful* and *timely* should ever be in the mind of the agricultural writer.

Space does not permit a discussion of the mechanical features of manuscript preparation. Among the most important points are double spacing, neatness, and the avoiding of long paragraphs, big words and involved sentences. A single spaced messy manuscript causes the editor to see blue without the use of a pencil, while long paragraphs have a tendency to throw a mental scare into the reader. Educated folks in general and scientists in particular are frequently tempted to parade their knowledge by the use of big words. Don't do it. Speak the simple language of everyday conversation, use apt comparisons and appropriate stories and the great majority of your readers will understand and applaud.

The value of good pictures can hardly be over-emphasized. In this connection, illustrations that tell a story are most desirable—pictures that merely embellish have little use in agricultural publications. During the long busy season many a farmer reads his journals and magazines by merely glancing at the pictures and studying the captions.

It has been said that scientific writing is at least a decade behind experimental work. Certain it is that extension workers can greatly add to their efficiency by the more liberal use of the public press. Newspapers and magazines present a fallow field to many county agents that will yield rich returns when properly cultivated. It is hoped that the few suggestions offered in the small space here allotted will be of assistance in preparing the seed bed that will mean better stories and better crops.



Western Washington Recommendations

THE high analysis movement in fertilizers has taken hold on the Pacific Coast. The Western Washington Experiment Station has given it a considerable boost by publishing a guide for fertilizer users in

its Bi-Monthly Bulletin of Jan., 1925.

This station has done better than the eastern states in reducing the number of formulas to three high grade analysis which, they believe, are adequate for all needs in Western Washington at the present.

The recommendations as presented in their Bi-Monthly Bulletin of January, 1925, are given below!

FORMULAS: 4-8-8 6-8-6 2-10-10

Raw Materials: Sulfate of Potash, Superphosphate (16%), Nitrate of Soda

GUIDE FOR USE OF COMMERCIAL FERTILIZERS

CROP	FERTILIZER TREATMENT	
GRAIN CROPS (Wheat, Oats, Barley, Rye, Vetch, Peas)	SUPERPHOSPHATE Apply 250 lbs. per acre. Broadcast on top of fall grain or disc in after plowing for spring grain.	SULFATE OF POTASH On Muck Land 300 lbs. per acre. Broadcast and harrow in before seeding grain.
PASTURES AND HAY MEADOWS	Apply 250 lbs. per acre. Broadcast as top dressing in fall on old pastures—in spring on hay meadows.	SULFATE OF POTASH On Muck Land 200 lbs. per acre. Broadcast as tops dressing in spring.
POTATOES	COMPLETE FERTILIZER 4–8–8 Analysis 800 lbs. per acre. Broadcast and disc into soil immediately before planting.	SULFATE OF POTASH On Muck Land Sulfate of Potash alone has given satisfactory results. 400 lbs. per acre. Broadcast and harrow in immediately before planting.
GARDEN CROPS (Leafy) (Celery, Asparagus, Spinach, Lettuce, Cabbage, etc., and Lawns.)	6–8–6 Analysis 400 lbs. per acre. Broadcast before planting and 400 lbs. along rows after growth is well started. Total 800 lbs. per acre. For Lawn broadcast 5 lbs. per square rod in spring.	NITRATE OF SODA For early lawn clippings broadcast 1½ lbs. per square rod early in March. Follow six weeks later with the complete fertilizer.
SILAGE CORN	SUPERPHOSPHATE Apply 300 lbs. per acre. Broadcast on plowing and disc into soil before seeding.	
MANGELS	Mangels respond to manure much more than to commercial fertilizers. 800 lbs. per acre of 4–8–8 analysis, on bottom soils will be most likely to return a profit. Broadcast and harrow in before seeding.	
SMALL FRUITS (Strawberries, Raspberries, Blackberries, etc.)	COMPLETE FERTILIZER 2–10–10 Analysis 500-800 lbs. per acre according to condition of field. Broadcast after spring plowing along rows. Harrow into soil. For strawberries scatter between plants and along rows.	
GARDEN CROPS (Roots and Green Fruits, Beets, Carrots, Parsnips, Corn, Peas, Beans)	COMPLETE FERTILIZER 2–10–10 analysis (for muck soils) 400 lbs. per acre. Broadcast before planting and 400 lbs. along rows after growth is well started. Total 800 lbs. per acre.	
ORCHARD FRUITS (Apples, Cherries, Pears.)	NITRATE OF SODA 1 lb. per tree (very young trees.) 3 lbs. per tree (young trees.) 5 lbs. per tree (mature trees.)	

Satsumas Flourish on the Gulf Coast

(*From page 7*)

that where much potash had been applied to the Satsuma trees, the cold did not hurt them nearly so much as where little had been applied. It was also noticeable that those Satsuma groves which had received heavy fertilization withstood the cold much more successfully than those that had been fertilized rather sparingly.

For bearing trees, give 12 to 20 pounds per tree for the first application and 8 to 12 for the second. It is usually scattered broadcast in a circle around the tree and cultivated in. An 8–4–6 is recommended by leading growers. Some use 8–4–8, however.

One grower in South Mississippi with whom we talked finds it advisable to discontinue cultivation between July 15 and August 1, after which time the Mexican clover, which is a weed in that section, is allowed to grow up. It produces an excellent cover crop and although it is not a legume, it produces a sufficient amount of organic matter to make it quite well worth while. It reseeds itself readily, and is therefore very valuable as a cover crop.

Heavy pruning is not advisable, yet some is necessary in order to give the tree the proper shape. The low headed tree is very desirable and usually they are so headed as to have the growth right down close to the ground. These low heads not only put the fruit near the ground so that it can be easily picked, but also protect the tree somewhat from cold weather.

LIKE any other fruit, the Satsuma orange has certain insect and disease enemies to contend with. The scab is probably the most common disease. Of the insects, the aphis, white fly, mites,

Hauling Satsuma oranges from orchard to packing house in Mobile County, Alabama

spiders, thrips and scale insects are usually on the job. To control the scab, the 3–3–50 Bordeaux is the standard preparation used. To control scale, white fly, sucking insects, etc., the 1% oil emulsion is used. For mites and red spider, lime sulphur solution, 1 to 60 is used in the summer. For thrips and aphis, nicotine sulfate at the rate of ½ pint to 50 gallons of water plus ¾ gallon lime sulphur or two or three pounds of soap is used.

The regular spray schedule calls for an application of the Bordeaux when the trees are in full bloom, or about 10 days later. This is for the scab and any other fungous diseases that may be present. Early in June when the fruit is about the size of a marble, 1% oil emulsion is applied for white fly, scale, or sucking insects. Where the infestation is heavy, a second spraying with the same material is given in July. Some time between September 1 and December 1 another application of 1% oil emulsion is given. If this application is not given until after the dormant period, which usually comes on in late November, the oil emulsion is increased to 1½ to 2%. If mites and red spiders become numerous during the hot dry weather of summer, especially in June, an application of 1 to 60 of the lime sulphur is given. It is not advisable to apply this when the temperature is above 90 degrees. These pests seldom ever give any trouble during rainy weather. It is during the hot dry weather that they get in their work.

The nicotine sulfate is applied to control thrips and aphis usually about the time the trees are in full bloom. Of course this may be mixed along with the other spray materials that are being applied at that time. A rule the growers follow is when 25 or more of the thrips are found to a blossom, spraying is required to protect the young fruit from scarring. Another thing that the careful grower does is to quit spraying during the middle of the day when the weather is very hot and dry.

Wherever the white fly is abundant in the fall just before picking time, many growers spray with oil emulsion a couple of weeks before picking is started. This helps to loosen up the sooty mold that the white fly causes and makes it much easier to clean up the fruit and give it that bright yellow appearance that makes the Satsuma so attractive.

SATSUMAS are not put on the market by the careful grower until the fruit is thoroughly clean, properly graded, wrapped in paper, and packed in a neat, attractive box. They are usually shipped in what is known as half boxes or straps.

The cold spell in January, 1924 taught the growers many things, one of which is the absolute necessity of so handling the trees that they go into the winter in a strong, vigorous condition. This can only be brought about by thorough cultivation, thorough spraying, and heavy fertilization. To allow the trees to become weakened from disease, insect attacks, lack of plant food or other cause is to put them in such condition that they are more susceptible to cold injury than they would be otherwise.

The leading growers tell us that there is no longer any question but that a high percentage of potash in the commercial fertilizer is essential. Not only does it give the fruit the right color and carrying qualities, but it causes the wood to harden up and go into the winter in the best possible condition to withstand any cold weather that may come along. That heavy fertilization, particularly a high percentage of potash, does put the trees in better condition to withstand cold, is not a theory, but a well known fact to these growers.

Controlling Farm Production

(*From page 16*)

experience in 1921 and 1922. When the department's early forecast is for a large late crop, sections like the Carolinas, Virginia, and New Jersey, which produce early potatoes, now realize the advantage of rushing their crop to market so as to avoid competing with the growers in the late producing states like Maine, New York, and Michigan. On the other hand, when a short late crop is forecast the growers of the early varieties, or at least the more intelligent among them, hold their potatoes for better prices or even augment the supply by delayed harvesting. Potato growers are also beginning to adjust their planting in harmony with information as to stocks still on hand. Some farmers analyzed correctly the short potato crop of 1919, from information supplied by the department. These men, instead of disposing of their crop in October when the price was only 20 cents a bushel above that of the previous year, held their potatoes for spring delivery and were rewarded by a price of about $2.22 a bushel.

Many hog producers are acquiring skill in adjusting their production in the light of market forecasts. Twice a year the department makes a "pig survey," which indicates the probable number of hogs that will be marketed the following season. It publishes the results of these surveys along with an analysis of price tendencies, based on the production prospects and on other influences affecting hog prices. Price forecasts made in this way have been remarkably accurate. In June, 1922, a pig survey showed that farmers were planning to breed an increase of 49 per cent in the number of sows for fall litters. Warnings were sent out that such an increase would mean extremely low prices for hogs. Actually the pig crop increased only about 25 per cent. Apparently the Government's warnings had a measure of the desired effect. Elimination of the "hog cycle," with its disastrous fluctuations in prices and production, is not yet in sight. The current extreme underproduction of hogs, which was forecast more than a year ago, is sufficient proof of that assertion. Yet hog producers are becoming more receptive to the idea that their operations should be based on market tendencies rather than on past hog prices.

ADDITIONAL signs that American agriculture is moving toward orderly production were furnished by the crop history of 1924. Each spring and fall the department issues "intention to plant" reports. These reports are not a forecast of the acreage that will actually be planted. They are merely an indication of what farmers have in mind to plant at the time they are interrogated by the department's representatives. The intention to plant reports are issued along with general surveys of crop and market conditions, in which specific opinions are given in the case of some crops as to whether production should be increased or decreased.

Farmers in 1924 intimated an intention to reduce their spring wheat acreage about 14 per cent below that of 1923. An official wheat situation report indicated that the price prospects for the 1924 wheat crop were not unfavorable. Actual planting of spring wheat, as reported in July, showed that the acreage was reduced only about 10 per cent. Intentions to plant oats in the spring of 1924 indicated a contemplated increase in acreage of seven per cent. The department warned farmers that the outlook was for a reduced foreign demand, and

the actual increase in oats acreage was less than two per cent. It was indicated that farmers expected to have about the same tobacco acreage as in 1923. Accordingly, the department issued a warning that prevailing prices might not be maintained, and particularly advised against large increases in tobacco acreage that were contemplated in Georgia. When the tobacco planting season was over, it turned out that the acreage had declined nearly eight per cent from that of the previous year. A warning was issued that a contemplated increase of 19 per cent in the peanut acreage might have bad results. Actually the peanut acreage inincreased only 7.5 per cent.

While it would be perhaps unwarranted to say that acreage changes thus made were responses to the department's warnings or recommendations, they were too numerous to be the result of mere coincidence. There are many signs, moreover, that farmers are recognizing the folly of letting past crop prices determine their future production. They have done so, heretofore, not because high or low prices were expected to perpetuate themselves, but because price trend forecasting was not on any kind of a reliable basis. Even now, of course, the economists and statisticians of the Government do not venture specific predictions as to the course of future prices. Hog price forecasting is more nearly on a scientific basis than forecasting in the case of any other farm product, but even in the case of hog prices the forecasts are confined to a prediction of main trends.

One of the most striking illustrations of long-time forecasting of production prospects is given in the case of citrus fruits. The citrus fruit industry is faced with an exceedingly difficult problem of readjustment. It is declared by the department that production of all citrus fruits increased from 20,000,000 boxes in 1909 to around 40,000,000 boxes in 1923. If young nonbearing groves are given sufficient care and old trees continue to produce at their present rate, there will be a production of 70,000,000 boxes by 1930. Oranges show the greatest prospect of increase. More than 7,000,000 orange trees were planted in Florida from 1919 to 1924. There are large new acreages of grapefruit in both Florida and Texas. Already the heavy production of the citrus fruit industry has had its natural effect in the shape of greatly reduced prices. It is also pointed out that while our population in 1930 will probably not be more than 10 per cent greater than it is at present, citrus fruit production will be 50 per cent greater. Citrus fruit growers are therefore faced with an urgent need for a much enlarged foreign market. Here is a forecast of manifest practical significance to every one interested in citrus fruits.

Incidentally, it is worth noting that the fruit industry provided an illustration last year that orderly marketing is of limited value without orderly production. Exceptional difficulties were met in marketing the large Georgia peach crop. A possible movement of around 15,000 cars was indicated, with a simultaneous movement of more than 17,000 cars of California cantaloupes and 10,000 cars of southern watermelons. With the assistance of the Department of Agriculture, the Georgia peaches were marketed in the most orderly way possible. So as to avoid glutting large markets, a survey was made of the needs of small ones. As a result, smaller markets were utilized much more than in former years. Shipments of Georgia peaches to New York, for example, were much smaller than in 1921. when the total supply was lighter, In general, the movement to western markets was heavier than that to eastern markets smaller. Yet this skillful and broad distribution did not prevent a serious price depres-

About Ourselves

BETTER CROPS is a monthly magazine edited primarily for those who act in an advisory capacity to the farmer.

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THE PUBLICATION of an article over an author's name, pen name or initials does not necessarily imply that we endorse the opinions expressed therein. We print articles for their interest and merit regardless of whether they accord with our own opinions.

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sion; although it probably obtained a better average price for the peaches than they would have otherwise brought.

As the term is used by the Department of Agriculture, orderly production is production reasonably well adjusted to market needs. It is very different from organized limitation of production. Farmers can probably never be got deliberately to hold their output below the quantity for which there is a profitable market. There is a prospect, however, that they can be persuaded from going beyond that point, when they know where it lies. This can often be determined with approximate accuracy.

CONTROL of production for the purpose of bringing about a proper adjustment of supply to demand does not call for the concerted action of all farmers. It can be achieved progressively by individual action. Farmers who adopt the new technique before its use becomes widespread will net special profits. They will benefit by having much of a certain crop to sell when its price is high and less to sell when its price is low. Each farmer who prospers in this way, however, will set a fashion in production for his neighborhood, so that in time many other farmers will be adjusting their farm enterprises wisely without knowing why. As more and more farmers learn the advantage of adjusting their production with an eye to market trends, the practice will not yield the special profits that the shrewder farmers can now make by being right when their neighbors are wrong. But agriculture as a whole will benefit from the elimination of extreme price fluctuations. It will be on the way to orderly production.

The County Agent's Business Partner

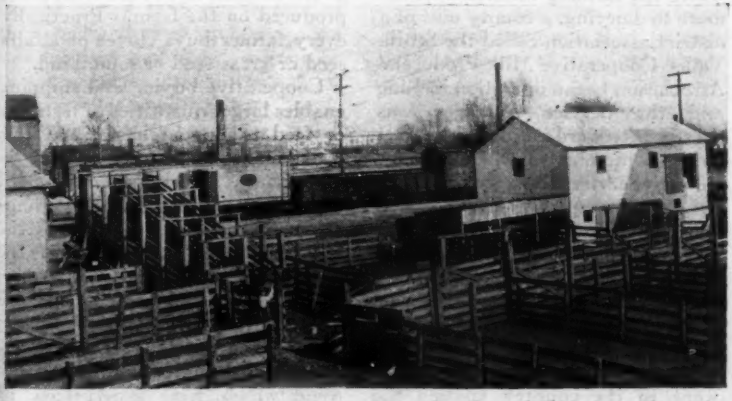
(*From page 11*)

got the work of the County Livestock Shipping Association on its feet. In one County where it seemed best for the Service Manager to give his first attention to the County Shipping Association, the business increased nearly three times over what it had been the corresponding month the preceding year.

IT IS the job of the County Service Manager to make the existing cooperative work more efficient. He does not pretend to substitute for men already at work. Rather he unites and corelates the efforts of those men.

As an example of this, the work of the shipping associations may again be used. We will again use Seneca although the plan there is only typical of that followed in counties where there is a considerable amount of livestock to be handled. At each shipping point there is a submanager working under the direction and in cooperation with the County Service Manager. Each sub-manager keeps the Service Manager informed as to the stock that is ready for market and also with regard to the desires of the owner to ship. Very often it happens that there is only a part of a car listed at each station. In such a case Vance, the County Service Manager, is able to pool the shipments from two or more of the stations. The well improved roads in Ohio make it very easy to truck the stock that might ordinarily be shipped from one station to another in order to make up a car. Before the days of the County Service Manager, each local manager worked independently of the others and often would not be able to list enough stock to make up a full car for several days or even weeks. By the new plan, whenever a man wants to ship, he very rarely if ever, has any delay in getting his stock off at the time he wants to sell.

A plan of selling direct to packers is developing. Vance said that more than half the stock from his county is sold without going through the hands of a commission firm. This saves immensely in fees for selling and in yardage and feed. Once when the writer dropped into the office occupied by Vance and Schmidt, the office girl handed Vance a notation she had made to



A general view of the stock yards and co-op. warehouse at Kenton, Ohio.

the effect that a certain sheep feeder had phoned that he desired to sell several cars of sheep early the following week. Vance made but little comment, but the next morning when the writer started to the country to see that same sheep feeder, Vance said, "Please tell him that I will have a buyer from the central market out to see his sheep next Monday morning." Vance had got in touch with the central market and had made this arrangement immediately upon having learned that the feeder was ready to sell.

Needless to say, the feeder was more than pleased with the prospect of selling direct. He said, "We get a service through the County Service Manager that is worth a great deal of money. He does things for us that we could not put over as individuals or that a local livestock shipping association could not accomplish. He represents practically all the farmers of the county and any big buyer will listen to him." A cattle feeder nearby said, "By having the County Service Manager on the job, I secured 75 cents per hundred more for my cattle than would have been possible."

DOWN in Pickaway County where the farming business inclines more to dairying, a county unit of a district association called the Scotia Valley Cooperative Milk Producers' Association began operation in June and the Service Manager was shortly afterward employed to start work September 1st. The new County Service Manager, Harry J. Briggs, was equal to the occasion and immediately began to render service to this new organization. He was named as manager of the cream station, but spent little time at that. He left the details of handling the milk and cream to the man employed as tester. Then Briggs went to the country visiting the producers. He laid out routes, built them up, signed new members and did whatever seemed necessary to make a successful working organization. The volume of business done by this new cooperative is growing because of the personal work that Briggs is doing and because of the excellent showing that is being made because of the assistance he gives as general manager of the association.

Ohio is a great sheep state. The wool produced by the thousands of farm flocks is largely pooled. Ohio had a wool pool before it had County Service Managers, but there is a big improvement in the handling of the pooling in the counties since the Service Manager came on the job. Formerly it was, too often, a case of "everybody's business being nobody's business." Now it is the business of the County Service Manager and he either does the work himself or sees that it is done. Likewise with tobacco in the great tobacco section of the state or with whatever crop that is to be marketed, the County Service Manager is looked upon as the man to put it over.

The farmers of Ohio are interested in buying as well as in selling. Many find it profitable to use commercial fertilizer. Many of them find it pays to keep a sufficient amount of dairy cattle or other livestock than can be fed from grain produced on the farm. Practically every farmer buys clover or alfalfa seed or grass seed of some kind.

Cooperative buying and shipping enables larger quantities of fertilizer or feed to be purchased and this often makes it possible to ship in car lots, thus securing a lower freight rate and a better price. Perhaps the biggest and best service is the inspection that is secured in the purchase of seeds. The Ohio farmers who secured their clover seed through their organization did not suffer from foreign seed and the consequent winter killing or low yield which were experienced by many others.

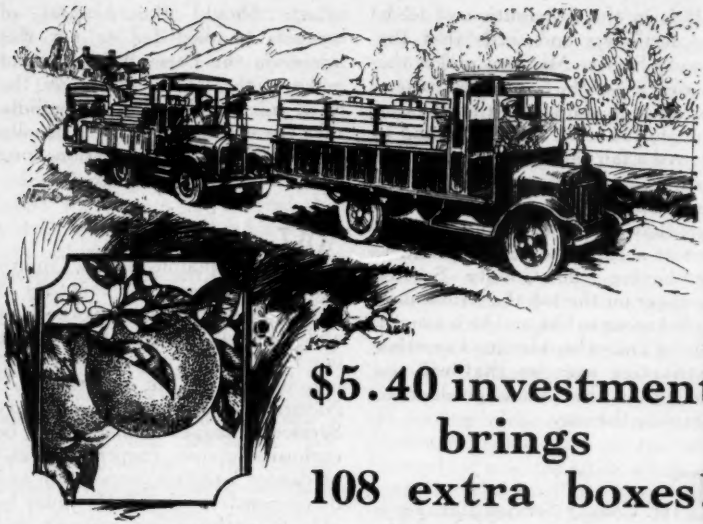
It is in the distribution of feeds and fertilizers and seeds that the County Service Manager makes the greatest use of the farmers' elevators. For all such shipments the elevator is made the local distributor and is allowed a fair rate of commission for the work and the service of handling the products. Frequently it happens that an elevator can use but a part of a car of some one product. By having the County Service Manager on the job the situation is made known to him and he is usually able to find other elevators or other distributing agencies that will use enough of that same product to complete the car.

THE County Service Manager is the county representative of the "Ohio Service Bureau Company." This organization is an offshoot of the Ohio Farm Bureau. Its aim is to purchase and handle several lines of products that the farmer most needs and to secure them for him at a minimum price. The principal duties of this organization are to handle fertilizer, feed, coal, seed, salt, twine, fence posts and to sell grain. Very naturally "The Ohio Service Bureau Company" handles these products in large quanties and is able to get the best. Many farmers whom the writer interviewed stated that the feature of this service they most appreciated was the fact that they are enabled to get a better grade of feed and fertilizer than ever before.

How is the County Service Manager paid? Is his salary and mileage to be drawn from the Farm Bureau treasury which in practically every instance is more than overworked handling other projects? The answer is simple and practical. His work is concerned with financial transactions and his salary is put on a commission basis. The Farm Bureau usually guarantees that the Service Manager shall not receive less than a stipulated minimum salary. Should the amount of business handled fail to net this minimum the Farm Bureau would make up the deficit. However, the work has developed so splendidly that the minimum salary is usually on hand from the commissions long before the end of the year.

WHO is qualified to be a County Service Manager? No exact set of qualifications have been worked out and probably never will be. The one requirement a man must meet is to be able to "Put over the Job." Naturally to be a successful County Service Manager a man must be enthusiastic over cooperation, else he cannot build up cooperation and do cooperative work. He must be able to enthuse and instruct and inspire others to work, for he cannot do all the work by his own efforts. He must be a man of keen business sense and must know and appreciate the value and necessity of records. He must know the farming game. He must be bigger than his job. He must be a worker, not an agitator or a fighter.

What of the future of the County Service Manager? His work is the natural result of the growth of cooperative work amongst farmers, and it would seem that farmers are growing more and more into a spirit of practical cooperation. The most encouraging factor is that farmers and the officers of the farm organizations are heartily pleased. Farmers invariably say, "We are getting a service we have long needed." Farm Bureau officers say, "Our members are well satisfied, for the County Service Manager renders them a service that is worth money to every one of them that makes use of him." In the minds of Ohio people the County Service Manager has more than made good. It will not be surprising if in time it may come to pass that "wherever there is a County Agent, there will also be a County Service Manager."



$5.40 investment brings 108 extra boxes!

THERE'S only one solid and sound way of testing the value of any fertilizer, and that is, by applying it on your own grove, then comparing the yield with that of an unfertilized section. That's just what H. C. Carr of Porterville, California, did!

He set aside three adjoining plots for experimental work. The soil on each plot was deep loam with clay subsoil; all the growing conditions were equal except for fertilizer treatment.

The first acre was not fertilized; it produced 648 boxes of oranges. The second acre received 1000 lbs. of a 2-8-0 mixture; the crop totalled 756 boxes. The third acre was fertilized with the same mixture as above, but with 9% sulfate of potash added; *The Crop Jumped to 864 Boxes!*

Thus, Mr. Carr's experiment showed that 180 lbs. of sulfate of potash, which cost $5.40, resulted in an extra crop yield of 108 boxes. Just figure out *the actual dollars and cents increase which potash earned* for Mr. Carr.

Keep the above facts in mind when you order fertilizer this season. *Potash Pays!*

Potash Importing Corporation of America

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Genuine German

POTASH

PICA BRAND POTASH PAYS

Weeds Everlasting

(*From page 5*)

worthy examples of this are ragweed, pigweed, black mustard, and common plantin.

In preparation for this experiment Dr. Beal made up 20 lots of seeds, each lot containing 50 freshly grown seeds from 20 different kinds of plants. One of these was white clover, the balance being the following common weeds: pigweed, ragweed, black mustard, chess or "cheat," shepherd's purse, fireweed, spotted spurge, pepper grass, corn cockle, Mayweed, mallow, wild primrose, common plantin, water pepper, purslane or "pursley," curled or "curley" dock, yellow foxtail, chickweed, and mullen. Each lot of seeds was well mixed with a pint of sand, which had been secured from three feet below the surface of the ground on land that had never been plowed, and placed in a wide-mouthed pint bottle. These bottles were then buried in a row on a sandy knoll on the college campus. They were buried 20 inches below the surface of the ground and placed with the uncorked mouths slanting downward so as to prevent the accumulation of water about the seed.

It was Dr. Beal's plan to have one set of seeds dug up and tested for germination at the end of each five year period. Thus it will be seen that the 20 lots of seed will carry the experiment through a period of 100 years. Dr. Beal personally conducted six of these germination tests, which carried the experiment through its thirtieth year. The thirty-fifth and fortieth year tests were made under the direction of Dr. E. A. Bessey who succeeded Dr. Beal as Professor of Botany at the college.

AT THE end of the twentieth year of the experiment the writer had the good fortune to be a student under Dr. Beal and was thus afforded an opportunity to watch the development of the germination test made at that time. In this test the seeds of 10 different weeds grew and produced vigorous plants. In his discussion relative to this and previous tests Dr. Beal remarked:

"From the results of these tests so far it looks as though many kinds of weeds are like the poor, 'we will have them with us always'."

From a practical standpoint these tests are of vital importance to the man behind the plow since he is the one who constantly has to wrestle with the problems concerning weed control. Let us look into some of the results thus far secured.

At the end of the first five year period, when the first test was made, 10 of the 20 different kinds of seed germinated, nine kinds germinated at the second test, 12 at the third, 10 at the fourth and fifth, seven at the sixth, five at the seventh, and eight at the eighth. It is worthy of note that the seed of a greater number of kinds germinated in the eighth test than in either the sixth or seventh. In commenting on this fact Mr. Darlington says:

"The tests fall due in the fall * * * *. The last test, however, was made in the spring of 1920, because the test had been delayed until the ground had frozen so hard as to make it impossible to dig up a bottle. The rather unusual results of the last test, however, have suggested that the wintering-over due to this delay has been rather fortunate than otherwise."

The eight kinds of seed which germinated in the fortieth year test are pigweed, ragweed, black mustard, pepper grass, wild primrose, common plantin, purslane, and curled dock. In this test 68 per cent of the pigweed, 38 per cent of wild primrose, 18 per cent of both the black mustard and curled dock,

and 10 per cent of the common plantin germinated. This is a pretty good record for seed that has been buried in the ground for forty years and furnishes proof that should convince the most skeptical that weeds come from weed seed only and are not in any manner of means the result of "spontaneous" production or mysterious plant transformation.

The seed of pepper grass alone germinated in each of the eight tests, though that of pigweed, black mustard, wild primrose, and curled dock each failed in only one of the eight tests.

Ragweed failed in every test but the last. This failure to germinate in any of the earlier tests is hardly in keeping with the unsavory reputation for persistency which this weed enjoys, but the fact that it came through in the last test is ample proof of its ability to stick around until conditions favorable for its germination are brought about.

Chickweed germinated in six consecutive tests then failed in the last two.

Purslane and yellow foxtail each germinated in five of the eight tests, the former failing in the first, sixth, and seventh, and the latter in the fourth, seventh, and eighth.

Mullin seed was very irregular, germinating in the first, third, fourth, and seventh tests.

Mallow, shepherd's purse, and plantin each germinated in two tests only.

The seed of chess, corn cockle, fireweed, spotted spurge, and white clover failed to germinate in any of the tests.

WHILE this experiment has not run one-half its allotted time a number of highly interesting facts have been brought out by the eight tests extending over a period of forty years. It is obvious that many of our common weeds cannot be entirely eradicated by clean cultivation where once the soil has been filled with their seed. Whenever a crop of mature pigweed, ragweed, black mustard, plantin, or curled dock is plowed under we may look for each successive plowing of the land to bring a new supply of seed under conditions favorable to germination. This means that the farmer can hope for no respite in his battle with weeds. Constant vigilance, however, will reduce the number of weeds to a minimum and make the proverbial hard row a little easier of hoeing.

Apparently many kinds of weeds are inclined to be rather notional in their reproductive habits, and their seed germinate only under the most favorable conditions. Examples of this class are the ragweed, plantin, and shepherd's purse which, in these tests at least, have appeared to dilly dally along and germinate only as the spirit moved.

The seed of chess, corn cockle, fireweed, and spotted spurge apparently lose their viability under five years since none of them germinated in any of the tests. It is possible, however, that some of these may suddenly come through in some of the future tests as did ragweed in the last.

From exceptional results obtained in the fortieth year test it appears that the spring is a more favorable time than the fall for running the germination tests, or that with some kinds of weed seed a freezing is necessary to bring about maximum germination.

It will be interesting to see what the future germination tests will bring forth. From results to date it is quite apparent that weeds are with us to stay, and that the most thorough cultivation is no panacea for the weed evil. Knowledge of this fact should not lead to discouragement nor bring about any laxity of effort on the part of the farmer, for the fewer weeds he permits to mature seed the greater success will both he and future generations have in mitigating weed damage.

Laziness

(*From page 4*)

The ladder of success is crowded except at the top.

But alert folks find that during hot weather competition on the paths to progress slackens; and the rungs on the ladder of success lose their crowded look. The roads to the beaches swarm with seekers after relief; but the benches in the library are empty, the shelves beckon with the fingers of millions of volumes, saying, "Come, learn while the others play."

I know a salesman who, because he is willing to pay the price, picks his prettiest plums on rainy days, when other salesmen give up—and play pool.

I know a merchant who pulls his biggest coups in August when other merchants are away on vacations, and sellers stand in the doorways of their factories, tongues hanging out of their mouths for orders.

I know a promoter who always starts his biggest ventures of the year in July, and completes the job in August, the month when other bond salesman lay off with the excuse that "everybody is away in August."

When others are less strenuously exerting themselves is the time the wise ones step in and intrench themselves. Napoleon advanced, and was over the brow of the hill at dawn, when his opponents were just stretching out of sound sleep.

Summer weather brings the tropics to the entire country—and with tropical heat and humidity comes the tropical laziness that steals ambition, deadens the sparkle of the eye and puts plans on the shelf of put-off.

The man who has trained himself to sustain himself under opposition, who fights outside interference, who loves a foot-ball game because of the "shove" behind it, is often the first one to accept his soul's argument that it is too hot to work. Beads of perspiration soften his spine and wilt down his resolution.

He can fight the world, but cannot resist his own temptations. He is case-hardened on the outside, but made of powdered grape-nuts inside. His skin is as tough a rhinoceros hide from rubbing up against the world but his guts get goose-flesh at the thought of carrying on through August.

Edison, at three score and ten, is vitally interested in conducting his experiments on through the hot weather, right through the humid days and sticky nights. From his cot, placed near his bench, and upon which he occasionally rests, he urges his associates on to greater endeavors and refuses to talk about the weather.

Newspapers come out every day in August. No magazine suspends for the summer. The gas-works goes on releasing the soul of coal; the central station pours out the juice and business goes merrily on.

* * *

LAZINESS is a pawn. You can "put it over the counter" and Life will loan you plenty of time on it, but the time is soon frittered away, and for the accommodation Life demands a lion's share of your opportunities and hope for success.

Success is only for the active man.

Failure lies around the corner waiting in ambush to throw asafoetida in the hair of the lazy man.

All life is a fight—a daily struggle against Nature—against our own desires.

And man's greatest struggle of all is against his own ingrained, inherited laziness—a laziness which some half-baked scientist awhile back used to prove that man was

never intended to work, claiming that if the Great One had meant man to labor he would have equipped him only with ambition and left laziness from his makeup.

From such half-baked theories Heaven protect us! The same scientist would undoubtedly use the pains of child-birth to prove that women were not intended to reproduce, and weeds in the garden to prove that man was never ordained to supply himself with food.

ALL SUCCESS is hedged about with difficulties.

If anything were too easy, there would be no satisfaction in attaining it. When a college education can be secured by strapping headpieces to your ears while you sleep, it will be no honor nor glory to be an educated man. Only the struggle to get it gives a thing its value.

Saunders Norvell, who in his philosophy is occasionally right, but more often wrong, once said that all good executives are lazy, and that they were good executives *because* they were lazy. He liked his Sales Managers fat and lazy so that they would remain seated in their swivel chairs and *plan* instead of "popping about like flies on a hot stove."

But Sank, in putting his theories into practice, has seen lean and lank salesmanagers who went "popping about" sniping orders outstrip his fat ones who merely sat and looked wise.

TO MISTAKE laziness and slowness for thoughtfulness and carefulness is easy. To see a man with his feet on the window sill and his eyes on the ceiling is often to say, in a hushed whisper, "Still waters run deep; I wonder what giant plan he is hatching out now!" when actually the subject is merely asleep with his eyes open, enjoying a tranquilly lazy hour.

And the near-thinker who loosed the near-thought that "all labor-saving inventions have come from the brains of men, who, too lazy to work, invented machines to do their jobs" should think one more masterpiece of a similar nature and I will recommend his bust for the Hall of Shame.

No invention ever came from a lazy man, for lazy men have lazy brains. An active brain-cell is never discovered in a lazy body.

Labor-saving inventions have always come from the minds of active men who realized that the rest of the world was lazy and would pay a fat price for a machine that would eliminate effort on their part—that for two dollars would save two moves of their lazy carcasses!

Life is short! Time is fleeting!

He who quits is out of step with the Zeitgeist—the spirit of the times is stick, study, succeed.

Let not the heat of the day concern you, but the heat of your ambition. If you sweat from the heat, sweat also from effort and when the two mix a formula is found that outdistances anything ever dreamed of by the alchemists of old in their palmiest days.

Fight laziness twelve months in the year, fourteen hundred and forty minutes each day; but redouble your efforts when tropical days begin to melt down your resolutions.

When you feel a fit of laziness sweeping over you, *spring to your feet* even if you only stand there getting your "dander up!" Swing your arms, cuss softly, walk back and forth and steel yourself to the effort that is required. Then get busy.

When the sun is hot, and others are putting off until a cooler time the things they should do today, is the time when we, if we are willing to pay the price of the effort, can eagerly advance a notch or two in our plans.

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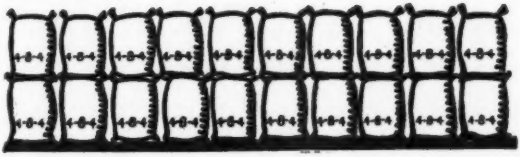

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It is during this busy season—a time when there are so many things to do that you will appreciate most the advantages of being able to do two hours' work while the clock ticks one.

Cultivating two rows in the same time that is ordinarily required for one, or sixteen acres in one day instead of eight, results in a decided saving in time and labor required to handle the crop.

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